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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KANTAMNENI, SHOBHA

ART UNIT	PAPER NUMBER
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1617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/751,514	Applicant(s) MOUGIN ET AL.	
	Examiner Shobha Kantamneni	Art Unit 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12, 13, 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) None is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-13, 16-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's amendment received on 04/25/2008, amended claim 1, and canceled claim 11.

Applicant's amendment overcomes the rejection of claims 1-10, 12-13, and 16-17 under 35 U.S.C. 112, second paragraph, as being indefinite.

Applicant's arguments have been considered, but not found persuasive. The rejection of claims 1-10, 12-13, and 16-17 under 35 U.S.C. 103(a) as being unpatentable over Samour et al. (US 5,807,957, PTO-892) is MAINTAINED. See under response to arguments.

Applicant's arguments have been considered, but not found persuasive. The rejection of claims 1-10, 12-13, and 16-17 under 35 U.S.C. 103(a) as being unpatentable over Emmons et al. (US 4,079,028, PTO-1449), in view of Munzmay et al. (US 5,153,297, PTO-892) is MAINTAINED. See under response to arguments.

The obviousness-type double patenting rejections of instant claims as being unpatentable over claims of US Application No. 09/904,516, Application No. 10/432,038, Application No. 10/415,952, and patent No. 6,602,303 is herein withdrawn. Note that applicant has filed Terminal Disclaimers.

Claims 1-10, 12-13, and 16-17 are examined herein insofar as they read on the elected invention and species.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12-13, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samour et al. (US 5,807,957, PTO-892).

Samour et al. disclose cationic polyurethanes which read on instantly claimed polyurethanes. See abstract; Column 3, lines 16-44; column 7, lines 19-37. In formula (I) of '957, when R is alkyl group of 1-30 carbon atoms, $m=0$, $Y' = N^+R_3R_4X^-$ wherein R_3 and R_4 are alkyl group from 1 to 30 carbon atoms, $R_1, R_2 = H$, $n = 1, n', n''$ are positive numbers, the polyurethanes obtained read on instant cationic polyurethanes. Samour et al. teach that isocyanates such as, dicyclohexylmethane-4,4'-diisocyanate, diols such as polyethylene glycol of different molecular weights are employed as monomers in the synthesis of polyurethanes therein. The molecular weights of the polyurethanes therein range from 1,00 to 25,000. See column 4, line 1-column 5, line 13. The compositions comprising the polyurethanes therein are substantive to skin and hair, and are useful for topical application to the skin or hair. See column 2, lines 49-52. It is taught that the properties such as hydrophilicity, lipophilicity, bonding with skin proteins, rigidity or flexibility etc. depend on monomers employed.

While the reference does not exemplify the exact species as claimed, the polymers taught by Samour et al. encompass the presently claimed species. It would

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have been obvious to a person of ordinary skill in the art at the time of invention to make the claimed species because 1) the polyurethanes of Samour et al. broadly cover and encompass the instant claimed species, and further 2) Samour et al. teaches the importance of various properties such as hydrophilicity, lipophilicity, bonding with skin proteins, rigidity or flexibility etc. in selecting the various subunits i.e monomers of the polymer. One of ordinary skill in the art at the time the invention was made would have been motivated to obtain the instant claimed species by modifying the polymers of Samour et al. by selecting various subunits as taught by Samour et al. in order to optimize the hydrophobic/hydrophilic, flexibility/rigidity balance as taught by Samour et al. to benefit from optimized polymers in using for skin care application.

Response to Arguments

Applicant argues that “the skilled person, who seeks solution a problem concerning thickening and/or gelling of aqueous media, would not be prone to read Samour which is concerned with new delivery systems on skin. The only thickening agent cited in Samour relates to topical carriers employed optionally as dispersing media (see col 15, line 27). The teachings in Samour relate to an entirely different problem and do not naturally lead one skilled in the art to the present invention.” These arguments have been considered, but not found persuasive. Samour teaches cationic amphiphilic associative polyurethanes which encompass the instant polyurethanes of formula (I). Samour teaches compositions comprising polyurethanes therein for skin care and hair care applications i.e cosmetic application. The compositions containing

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the cationic polyurethanes therein can be in the form of cream, gel, emulsion, lotion etc. See column 14, lines 22-30; see example 2 wherein a moisturizing lotion containing the amphiphilic cationic polyurethane in water is taught. It is pointed out that thickening and/or gelling of aqueous media are the properties of the polyurethanes taught by Samour, and such properties are present in the polyurethanes taught by Samour. Therefore, if the prior art teaches the composition or renders the composition obvious, then the properties are also taught or rendered obvious by the prior art. In re Spada, 911 F.2d 705, 709, 15 USPQ 1655, 1658 (Fed. Cir. 1990.) See MPEP 2112.01. The burden is shifted to the Applicant to show that the prior art product does not possess or render obvious the same properties as the instantly claimed product.

Further, the instant invention is drawn to a water-soluble or water dispersible amphiphilic cationic polyurethanes, and their use in compositions for topical application. See page 1, paragraph [0001] of instant specification. Samour's reference is also concerned with amphiphilic cationic polyurethanes which are water soluble/ dispersible for use in cosmetic compositions for topical application. One of ordinary skill in the art at the time the invention was made would have been motivated to obtain the instant claimed species by modifying the polymers of Samour et al. by selecting various subunits as taught by Samour et al. in order to optimize the hydrophobic/hydrophilic, flexibility/rigidity balance as taught by Samour et al. to obtain water soluble or water dispersible polyurethanes, and to benefit from optimized polymers in using for skin care application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12-13, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emmons et al. (US 4,079,028, PTO-1449), in view of Munzmay et al. (US 5,153,297, PTO-892).

The elected inventions read on cosmetic composition comprising a cationic polyurethane produced by the reaction of at least two diisocyanate and at least one polyethylene glycol, wherein the cationic ammonium groups are with a hydrophobic groups and are at the terminals of the polyurethane.

Emmons et al. teach polyurethane thickeners having at least two terminal hydrophobic groups, water insoluble organic polyisocyanate, polyether polyol segments. See column 2, lines 44-68; column 4, lines 50-66. The polyurethanes are prepared by reacting a water soluble polyether polyol, isocyanate, one monofunctional active hydrogen compound which is a compound having only one group which is reactive with isocyanate. The monofunctional active hydrogen compound is a capping compound i.e. is reacts with the terminal functional groups and is hydrophobic group. See column 3, lines 4-9, lines 31-48, column 4, lines 1-5; See column 6, lines 51-64. The hydrophobe terminal group includes hydrocarbon residues of hydroxyl, amino reactants. The reacts employed are polyethylene glycol of 4,000-20,000 molecular weight, 4,4'-

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methylenebis(isocyanatocyclohexane), and fatty alcohols such as stearyl alcohol, or alkyl amines. See column 8, lines 33-35, lines 59-60; column 9, line 46-column 10, line 19. The thickeners therein are useful in cosmetic, medicinal, and as textile finishes, bonding agents for both woven and non-woven fabrics. See column 15, lines 6-8.

Emmons et al. do not teach the terminal cationic ammonium groups as in the instant claimed species.

However, Munzmay et al. teaches that it is known in the art to employ cationic groups at the terminal position of polyurethane. See, particularly, col. 6, line 44 to col. 7, line 2. It is taught that the terminal cationic groups are obtained by employing hydroxyl and amine components containing tertiary nitrogen such as N,N'-dimethyl ethanolamine, and quaternizing it with quaternizing agents. Munzmay also teaches that the polyurethanes therein are useful in treating woven and nonwoven fabrics. See column 9, lines 18-23.

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed invention was made, to make a polyurethane as taught by Emmons et al. with cationic ammonium groups at the terminals of the polyurethane. A person of ordinary skill in the art would have been motivated to make a polyurethane as taught by Emmons et al. with cationic ammonium groups at the terminals of the polyurethane because making cationic polyurethane by quaternizing terminal groups is a known method in the art. Absent evidence to the contrary, such quaternizing method is seen as an obvious engineering choice to one of ordinary skill in the art.

Response to Arguments

Applicant argues that “As mentioned hereinabove, the problem stated by the skilled person deals with the thickening and/or gelling of aqueous media by polymers. Consequently, the skilled person, who seeks a solution to this problem, would not be prone to read such document concerning specific treatments of textiles.” These arguments have been considered, but not found persuasive. As discussed, above thickening and/or gelling of aqueous media by polymers are properties of polymers. Therefore, if the prior art teaches the composition or renders the composition obvious, then the properties are also taught or rendered obvious by the prior art. In re Spada, 911 F.2d 705, 709, 15 USPQ 1655, 1658 (Fed. Cir. 1990.) See MPEP 2112.01.

Applicant argues that “Polymers disclosed in Munzmay are water-dispersible, whereas polymers according to the present invention are water-soluble.” These remarks are not persuasive. It is pointed out that the instant polymers are water-soluble or water-dispersible. See Instant specification, page 2, paragraph [0009] wherein it is recited that “A novel family of water-soluble or water-dispersible amphiphilic cationic associative polyurethanes has been discovered.”

Applicant argues that “Munzmay, would have not introduced cationic groups into a polyurethane without polyetherester group, since Munzmay discloses the combination of cationic groups and polyetherester groups.” These arguments have been considered, but not found persuasive. It is pointed out that applicant is arguing against a single reference when the rejection was based on combination of reference.

Applicant argues that “Even if Munzmay discloses that cationic groups may be introduced into the polyurethane in the form of secondary or primary terminally and/or laterally incorporated in the polymer, it does not disclose or suggest that such cationic ammonium groups should be introduced at both ends of the polyurethane.” These arguments have been considered, but not found persuasive. Munzmay et al. teaches that it is known in the art to employ cationic groups at the terminal positions of polyurethane. Thus, even, though Munzmay et al. does not exemplify that cationic ammonium groups should be introduced at both ends of the polyurethane, it has been well-established that consideration of a reference is not limited to the preferred embodiments or working examples, but extends to the entire disclosure for what it fairly teaches, when viewed in light of the admitted knowledge in the art, to person of ordinary skill in the art. *In re Boe*, 355 F.2d 961, 148 USPQ 507, 510 (CCPA 1966); *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 279, 280 (CCPA 1976); *In re Fracalossi*, 681 F.2d 792, 794, 215 USPQ, 570 (CCPA 1982); *In re Kaslow*, 707 F.2d 1366, 1374, 217 USPQ 1089, 1095 (Fed. Cir. 1983).

It would have been *prima facie* obvious to a person of ordinary skill in the art, at the time the claimed invention was made, to make a polyurethane as taught by Emmons et al. with cationic ammonium groups at the terminals of the polyurethane. A person of ordinary skill in the art would have been motivated to make a polyurethane as taught by Emmons et al. with cationic ammonium groups at the terminals of the polyurethane because making cationic polyurethane by quaternizing terminal groups is

a known method in the art. Absent evidence to the contrary, such quaternizing method is seen as an obvious engineering choice to one of ordinary skill in the art.

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period, will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shobha Kantamneni whose telephone number is 571-272-2930. The examiner can normally be reached on Monday-Friday, 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, Ph.D can be reached on 571-272-0629. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shobha Kantamneni, Ph.D
Patent Examiner
Art Unit : 1617

/SREENI PADMANABHAN/
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